

# Tell Me What to Do!

[Students explore the difficulties of giving instruction]

## Time Estimate

45 minutes



## Preparation Thermometer

2-4



## Prep Option 3

If you want to run this activity using multicolored blocks, follow the same procedure as for pen and paper except place multicolored blocks on each desk instead of a pen and paper.

## Prep Option 2

If you want to run this activity using pens and paper, set up stations with two students facing one another. There will need to be some kind of barrier between them so the students can't see each other's desks. If you don't have barriers available, set them up back-to-back. Each desk should have a pen and a sheet or two of paper on it.

## Prep Option 1

If you want to run this activity using obstacle courses, create relatively simple obstacle courses in the classroom. Create either one course or two identical courses. They should involve things like turning, hopping into or out of hula hoops, bending down and picking up objects, jumping over small items (like folded blankets), etc.

## Materials

Hula Hoops, chairs, jump ropes, blankets, hats, a stopwatch, a large poster board, and cloth for blindfolds

OR

pens and paper (one pen and two pieces of paper per student), a stopwatch, and a large poster board

OR

blocks in a variety of shapes, a stopwatch, and a large poster board. Each student should have one identical set of blocks.



## BIG IDEA for Kids

In "How Are You Feeling," we discussed the idea that machines might be able to recognize that the sides of the mouth being higher than the center means someone is happy, for example. Similarly, programming machines with artificial intelligence often means providing them with rules or guidelines to follow in order to complete a particular task. However, writing or giving instructions can be harder than you think!

## Open the Window

How can you give the best instructions possible?  
What makes giving directions challenging?

Do you think artificial intelligence will always be created by giving machines rules or guidelines?

Can you imagine any other technologies that might be invented in order to allow machines to learn on their own?

# Activity Instructions

## 1. Read students the following:

Your phone rings. You answer. It's Sadina again. "Hey," she asks, "Do you remember how to get from Rio's house to SCARE?"

"Yeah," you say. "Go left by that big tree, then take a right by that pizza place, and go straight a few blocks--"

"Wait," Sadina interrupts. "The oak tree or the willow?"

Uh oh, you think. Maybe this isn't going to be as easy as I thought.

"Sorry," Sadina adds. "Giving instructions over the phone is tough."

"But think about it," you say, "We are going to have to give Rio's brain some directions about how to do all kinds of stuff. That's going to be hard."

"You're right," she says. "See if you can find some good ways to give instructions!"

## 2. Put students in pairs. Each group should choose one member to be the "instructor."

### Obstacle Courses

3. Explain the appropriate steps to go through the obstacle course.

4. Blindfold the students who are not the instructors. If you have one obstacle course, one pair will go at once. If you have two courses, two pairs will go at once.

6. When you say "start," the instructor should guide the blindfolded student as quickly as possible using only verbal instructions. Record how long it takes for each blindfolded student to correctly complete the course. If a student makes a mistake, she should back up to fix it.

7. Have students discuss with their partners the easiest and hardest parts of giving and receiving instructions. They should discuss how they would do the course differently.

8. Have each pair do the course again with the same instructor and follower. The goal is for them to improve their time.

### Pen and Paper

3. Instructors gather out of earshot of their partners. Together, they should come up with a simple drawing and all of them should draw it on their paper. It should be simple enough to replicate.

4. Instructors return to their partners without showing them the drawing. When you start the timer, instructors tell their partners how to draw the picture. When a group thinks they are finished, check their drawings. If they match, mark down the time. If they don't, the instructor has to help her partner fix the drawing without them looking at each others' papers.

5. Once everyone finishes, the pairs should discuss the easiest and hardest parts of giving and receiving instructions. They should talk about how they would give instructions differently.

6. Repeat the activity with the same instructors. The goal is for each pair to improve their time.

### Blocks

3. Instructors get together out of earshot of their partners. Together, they should come up with a simple design/arrangement of blocks.

4. Instructors return to their partners and put the agreed-upon block arrangement on their desk without showing it to the partner. When you start the timer, instructors tell their partners how to make the arrangement. When a group thinks they are finished, you should check their blocks. If they match, mark down the time. If they don't, the instructor has to help her partner fix the arrangement without looking at each other's arrangements.

5. Once everyone finishes, the pairs should discuss the easiest and hardest parts of giving and receiving instructions. They should discuss how they would give instructions differently.

6. Repeat the activity with the same instructors. The goal is for each pair to improve their time.

## To Conclude

--Have students write down in their journals one tip they have for giving good instructions. They should discuss with the class and create their "best list." (This can be put onto a poster board, if desired).

--Have students journal about the "View From My Window" prompts on the next page.

--Give students the extended learning question, if desired.

# Tell Me What to Do!

## View From My Window:

Do you think it would be possible to give a machine instructions to do all the things a human does?  
Can you imagine that machines will ever be able to “learn” instead of only follow instructions?  
Write some of your ideas about what those machines might be like.

## Extended/Family Learning

See if you notice anyone giving instructions to someone else between now and the next time we meet. What do you notice about the instructions they give?

## Imaginative Education Tools

Story; Forming Images; Games, Drama, and Play; Change and Role-Play

## Teacher Notes: